Evaluating Sustainable Universal Design Accessibility Criteria at Historical Urban Sites

Sürdürülebilir Evrensel Tasarım Erişilebilirlik Kriterlerinin Kentsel Sit Alanlarında Değerlendirilmesi

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ABSTRACT

Cities are the spatial reflections of cultural heritage, and they transfer historical values, local identity, and urban life from past to present. Sustainable cities integrate this cultural heritage into the city life and develop holistic strategies to protect these values. Integrated designs in urban site areas, which are important components of cultural heritage within the whole city, gain importance for a better urban life and tourism. Streets, public areas, and infrastructure integrated with universal design principles are not implemented enough in the site areas because of topographic problems, inadequacies in existing traditional areas and lack of management. Nowadays, restoration and rehabilitation of urban site areas coherent with a universal design approach which include disabled people have already been on the World Cities agendas. The prominent institutions with universal design such as ICOMOS, UNESCO and related departments of the European Union support the cities with various agreements, guidelines, and initiatives. In this study, the cities Salzburg-Austria, Lyon-France, Avila-Spain, Luxemburg, Krakow, and Warsaw-Poland that are both on UNESCO's World Heritage List and have won the EU Access City Awards which are and Turkish cities such as Suleimani Region-Istanbul, Safranbolu-Karabük and Han's Region-Bursa which are in the UNESCO's World Heritage List are tried to be compared and evaluated under Sustainable Universal Design Accessibility Criteria. Universal design principles of ICOMOS and EU Access City Awards are synthesized to address the Sustainable Universal Design Accessibility Criteria at the historical urban sites. These cities are analyzed under these criteria to discuss the importance of universal design in historical cities and to discuss the inadequacies about accessibility as an important component of universal design, in the selected Turkish cities. By doing this, the importance of universal design integrated approaches is tried to be mentioned.

Keywords: Cultural Heritage, Site Areas, Universal Design, Sustainable Cities, Accessibility

ÖZ

Kültürel mirasın mekânsal yansıması olan kentler, yerel kimliğin, kent yaşamının ve tarihî değerlerin geçmişten günümüze aktarıldığı alanlardır. Sürdürülebilir kentler, bu kültürel mirası günlük kentsel yaşama dâhil etmekte ve korumaya yönelik bütüncül stratejiler geliştirmektedirler. Kültürel mirasın önemli bir parçası olan kentsel sit alanlarında gerek daha iyi bir kent yaşamı gerekse turizm için kent ile entegre tasarımlar önem kazanmaktadır. Topografik sorunlar, mevcut tarihî yapıdaki uyumsuzluklar ve yönetimdeki yetersizlikler dolayısıyla evrensel tasarım ilkeleri ile uyumlu sokaklar, kamusal alanlar ve altyapı kentsel sit alanlarında yeterince uygulanamamaktadır. Günümüzde engelli bireyleri kapsayıcı evrensel tasarım anlayışıyla uyumlu kentsel sit alanlarının rehabilitasyonu ve restorasyonu konusu dünya kentlerinin gündemi içerisinde yer almaktadır. Evrensel tasarımın temel prensipleri doğrultusunda öne çıkan ICOMOS, UNESCO ve Avrupa Birliği'nin ilgili kurumları çeşitli anlaşmalar, yönergeler ve girişimlerle kentleri desteklemektedirler. Bu çalışmada UNESCO Dünya Mirası Listesi'nde kentsel sit alanı olan ve AB Erişilebilir Kentler Ödülü'nde yer alan Salzburg-Avusturya, Lyon-Fransa, Avila-İspanya, Lüksemburg, Krakow ve Varşova-Polonya ile UNESCO Dünya Mirası Listesi'nde yer alan Türkiye'den Süleymaniye Bölgesi-İstanbul, Hanlar Bölgesi-Bursa ve Safranbolu-Karabük kentsel sit alanları karşılaştırılmış ve Sürdürülebilir Evrensel Tasarım Erişilebilirlik Kriterleri çerçevesinde değerlendirilmeye çalışılmıştır. Evrensel tasarım ilkeleri, ICOMOS ve AB Erişilebilir Kentler Ödülü'nde esas alınan temel konular incelenerek kentsel sit alanlarında

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"Sürdürülebilir Evrensel Tasarım Erişilebilirlik Kriterleri" tanımlanmıştır. Bahsi geçen kentler bu kriterler çerçevesinde incelenerek, evrensel tasarım ilkelerinin tarihî kentler için önemi ve Türkiye'den seçilen kentlerin evrensel tasarımda önemli bir konu olan erişilebilirlik kavramıyla ilgili eksiklikleri tartışılmıştır. Bu sayede, kentsel sit alanlarında evrensel tasarım ilkeleri ile uyumlu yaklaşımların önemi vurgulanmaya çalışılmıştır.

Anahtar Kelimeler: Kültürel Miras, Sit Alanları, Evrensel Tasarım, Sürdürülebilir Kentler, Erişilebilirlik

INTRODUCTION

Cultural heritage is a component of the city identity, which is very important for the sustainability. It also has an important public character that makes it accessible for everybody. It is a sum of all the historical, artistic, cultural, architectural, archeological values that should be protected to be transferred to the next generations, which is also defined for sustainability (UNESCO 1972; URL 1). Cultural heritage is a sum of all the immovable and movable cultural heritages (Ahunbay, 2014). Natural, historical, and urban site areas are considered as immovable cultural heritages with cultural, historical, economic, political, and scientific values, that should be protected as they have an important mission for transferring history to nowadays (Asatekin, 2004).

Protection of cultural heritage has started to be discussed seriously after industrialization period and after the World War II in Europe. After the war, demolish of historical places and values made the decision makers and professionals searching for new urban planning and architectural approaches to re-build the city (Ahunbay, 2014; Böke, 2020). Recently, heritage concept has been accepted as a common belonging of humanity in all international levels. Protection of cultural heritage is related to the international and national laws and declarations. According to Nara Document on Authenticity, the cultural heritage should be protected and enhanced in accordance with the identity of the place (ICOMOS, 1994). UNESCO's World Heritage List has been created together with the state parties under UNESCO's coordination to protect the natural and cultural values (Böke, 2020). To be in the list, some criteria should be met such as reflecting a period's cultural, urbanistic, architectural, artistic, cultural characteristics, being unique examples of traditional settlements together with the integrity of topography and/or natural environment etc. (URL 1; UNESCO,1972).

The accessibility of cultural heritage as an important value for all humanity makes these values a part of universal design concept. Universal design concept should define universal standards for all scales of design, starting from national to architectural units. As 15% of the population is disabled according to the WHO (2011), participative approaches and tools are important for the sustainability of the city and for the protection of cultural heritage under universal design approach. During the 1980s, the concepts of equity and design for all, have become a discussion issue in the agendas of cities. According to the main principles of universal design which are determined by the Center for Universal Design founded in 1996, was based on equal use, flexibility, simplicity, perception, tolerance, security, low in physical efforts, size, and space (Dostoğlu, Şahin & Taneli, 2009).

Nowadays, universal tourism concept is also being discussed for an equal and accessible tourism for everybody without considering their disabilities (Akdu & Akdu, 2018). Tourism is an important economic factor that may have a crucial role in developing cities when managed successfully and considered all the dimensions such as political, economic, social, cultural, ecologic, physical issues while protecting the identity and cultural heritage (ICOMOS, 1999). The accessibility under universal design isn't only a problem to be solved physically, but also socially and institutionally. The participatory approach with the cooperation of private and public sectors like NGO's, groups, citizens has become a very important decision and management part of developing a sustainable city (UNWTO, 2015). According to this, universal design aims to design a city together with the parts of the city for sustainability.

ICOMOS as an institution associated with UNESCO defines that the protection of the historical environment can be realized by area management plans and being part of the charters and declarations. These are Charter on the Conservation of Historic Towns and Urban Areas, Architectural Heritage Conservation Charter, International Cultural Tourism Charter, Valetta Principles that address the important strategies about protection of historical and urban areas (ICOMOS, 1964; ICOMOS, 2011; ICOMOS, 2013). In addition to this, European Union Access City Awards criteria focuses on accessibility, disable friendly design of public areas and environment, organization of public transportation, accessibility to knowledge and communication, social facilities and services and innovative projects.

The initiatives for accessible tourism supported by European Union promotes the nations to re-organize their legislative systems to increase their tourism capacity. Turkey also accepts its responsibility for solving the physical, socio-economic, and legislative challenges of the disabled people by being a party of the United Nations Convention on the Rights of People with Disabilities for the equity and a higher quality of life for all (UN, 2009).

1. Sustainable Universal Design Accessibility Criteria at Historical Urban Sites

The initiatives and supports given by UNESCO and EU for the sustainability of the cultural heritage, promoted the countries and the cities taking protection of cultural heritage in their agendas. So, main objectives of these principles, conventions and charters should be considered for a better accessibility in designing sustainable cities together with cultural heritage and universal design. Considering ICOMOS, EU Access City Awards and Universal Design Principles following topics which are area management, accessible trip routes, accessible transportation, low physical effort, accessibility for disabled, perception, smart applications are found important under Sustainable Universal Design Accessibility Criteria at Historical Urban Sites (Fig 1.).
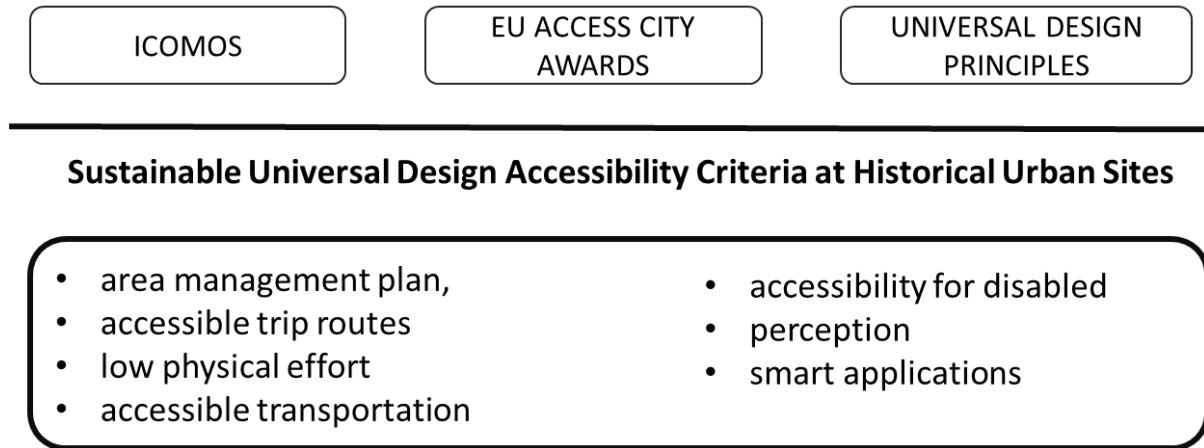
ICOMOS	EU ACCESS CITY AWARDS	UNIVERSAL DESIGN PRINCIPLES

Sustainable Universal Design Accessibility Criteria at Historical Urban Sites

- area management plan,
- accessible trip routes
- low physical effort
- accessible transportation
- accessibility for disabled
- perception
- smart applications

Fig. 1. Sustainable Universal Design Accessibility Criteria at Historical Urban Sites Created from ICOMOS, EU Access City Awards and Universal Design Principles (ICOMOS, 2011; URL-3; UN, 2009; Şen, Yetim & Bilici, 2014)

Area management plan is a guide prepared together with all stakeholders and actors considering the protection of the cultural-natural heritage and site areas in accordance with their original character with a holistic and sustainable approach. It aims in protecting the universal design values and vitality of the places to carry the values to the benefits of next generations in accordance with sustainability. The management plans are strategic action plans aiming sustainable protection of the areas and prepared for short and long term. The main topics are protection-restoration, visitors- tourism, education and awareness, transportation, accessibility etc. (Url-15). WTO mentions the importance of easy access to transportation, park areas, info offices, horizontal and vertical circulations like roads,

stairs, ramps, lifts etc., accommodation, food and beverage facilities, cultural activities, public areas, trip routes, natural areas and beaches by the reports prepared by the usage of these areas in accordance with universal design (Şen, Yetim & Bilici, 2014).

According to the World Tourism Organization (WTO), tourism is an economic activity that people move from their original cities where they live, to another for certain activities. These activities can be summarized as accommodation, food and beverage, cultural sightseeing, shopping etc. In 2009, WTO focuses on facilitating tourism activity for all by the Declaration on the Facilitation of Tourist Travel. Accessible tourism for all aims integrating disabled people to all the tourism activities (Akdu & Akdu, 2018). League of Historical & Accessible Cities (LHAC) is a pilot project conducted in 2010, to support cultural heritage under sustainable tourism perspective aiming to achieve accessibility to historical cities. The main concept of the project is not only providing activities for disabled people and their families to spend their time with social and cultural activities, but also supporting tourism activity for 80 million disabled people in Europe. Under this project in 6 cities Süzebolu (Bulgaria), Mulhouse (France), Torino (Italy), Avila (Spain), Viborg (Denmark), Lucca (Italy), 6 accessible trip routes are developed (URL-5).

World tourism organization mentions the importance of the accessible trip considering accessibility to transportation, recreation, cultural activities, public areas, touristic routes, natural and beach areas (Şen, Yetim & Bilici, 2014). Accessible transportation, services, information, and infrastructure are important components of universal design adapted (Yıldız, 2019). The public transportation, vehicle traffic and car parking areas should facilitate an easy and safe access to the sightseeing areas by giving a parking space to the visitors and disabled vehicles. Perception under universal design principles can be auditory like vocal warning systems and information, visual like lights, traffic lights, signs, information boards, brochures and tactile perception can be embossed signs and brochures. Low physical efforts can be achieved by designing smooth surfaces and accessible streets in horizontal and designing elevators and ramps adapted to the city not only for disabled people but also for elder people, children etc. Urban furniture with resting areas and lighting elements are designed under this aim, considering size and space in human scale. Security of a city for citizens and tourists make the city accessible and comfortable. This can be achieved by tourist offices and security centers where visitors and tourists with disabilities can consult and get help.

In accessible trip routes, a holistic perspective, considering all dimensions of accessibility, public open areas and built-up areas, transportation and related infrastructure, information and communication, public facilities and services are taken into consideration. Accessible trip routes should define a walking area with a clear width and surface texture, which facilitates the movement of individuals with mobility problems during their visits in the area. For a better urban tourism and high quality of life, smart applications like these can be used for the visits done to urban areas and historical places. Smartphones and audiobooks may create an accessible platform for participation to the city life and to decisions. Audial information in cities may help to promote social inclusion for everybody including children, disabled people, create an alternative which may facilitate understanding, be attractive especially for young people and fosters learning (Marchetti & Valente, 2018).

Accessibility under universal design may be a tool for increasing the employment rates of the city by making disable people integrating the city life, which may also create an equal and a cohesive society. Integration with the technology adapted to needs of the disabled people may be used as another important tool for creating a communicative and participative society.

2. Methodology

The main concept and headlines of universal design accessibility for the sustainability of the urban sites are tried to be addressed using the universal design approach, sustainable cities, and cultural heritage concepts. ICOMOS, UNESCO, European Union's initiatives, convention and charter decisions, main objectives and their lists of cities are taken into consideration to define Sustainable Universal Design Accessibility Criteria at Historical Urban Sites in this study.
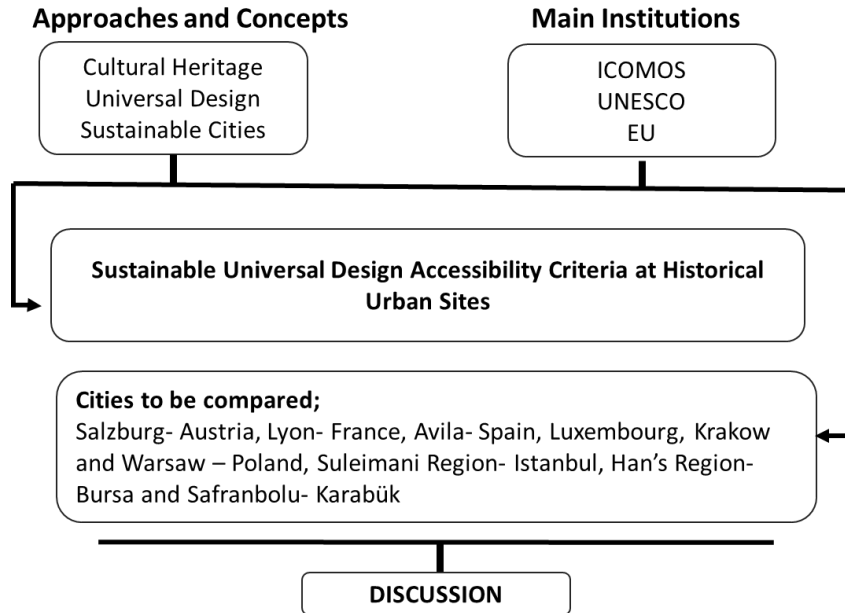
Approaches and Concepts

Cultural Heritage
Universal Design
Sustainable Cities

Main Institutions

ICOMOS
UNESCO
EU

Sustainable Universal Design Accessibility Criteria at Historical Urban Sites

Cities to be compared;
Salzburg- Austria, Lyon- France, Avila- Spain, Luxembourg, Krakow and Warsaw – Poland, Suleimani Region- Istanbul, Han's Region- Bursa and Safranbolu- Karabük

DISCUSSION

Fig. 2. The Methodology of the Study (Diken, 2022)

In this article, historical environment and universal design principles, regulations and declarations related with the protection of historical environment of ICOMOS, UNESCO and EU and EU Access city Reward criteria on area management plans, regulations on protection of historical cities and urban areas, protecting cultural and architectural heritage are the main issues that are studied. These main criteria considering both sustainable historical cities and universal design criteria are tried to be explained with 7 main criteria which are area management, accessible trip routes, accessible transportation, low physical effort (vertical, horizontal), accessibility for disabled, perception (auditory, visual, tactile), smart applications (Fig 1.).

The cities which are evaluated in this study under these criteria are selected between the cities under the cultural heritage list of UNESCO as urban sites and have won the EU Access City Awards. Under the protection of UNESCO, there are 1121 cultural and natural heritage and 76 urban site areas. These site areas are mostly in Germany, France, Spain, Croatia, Italy, Poland, and Portugal. In this study the cities that are both under the cultural heritage list of UNESCO as urban sites and have won the EU Access City Awards are defined as Salzburg-Austria, Lyon-France, Avila-Spain, Luxemburg, Krakow, and Warsaw-Poland (URL-3). But from Turkey, only the cities which are urban site areas under the list of UNESCO are evaluated because none of the Turkish cities have won this prize. There are 18 cultural and natural heritages in Turkey under the list of UNESCO. Urban site areas under the list of UNESCO are located in Suleimani Region-Istanbul, Safranbolu-Karabük and Han's Region-Bursa are considered in this study (URL-6). The outcomes of the comparison of these cities under Sustainable Universal Design Accessibility Criteria at Historical Urban Sites are tried to be discussed for a better and sustainable universal design considering cultural heritage in the selected cities of Turkey (Fig. 2).

The evaluations done for each city are evaluated from UNESCO, EU, EU Access City Reward and ICOMOS reports, webpages of UNESCO, ICOMOS, city municipality web pages of the cities and related articles. It is observed that there is limited information about universal design based on specific cities, especially in historical ones in city scale.

3. Evaluation of the Cities Listed at UNESCO under Universal Design Accessibility Criteria

The evaluation of the cities listed in UNESCO together with the ones have won the EU Access City Awards under Sustainable Universal Design Accessibility Criteria at Historical Urban Sites can be seen in Table 1. The cultural and historical heritage that take place as a part of the cities in Europe analyzed in the table, are renovated, and rehabilitated generally in accordance with the protection of the cultural heritage and universal design principles. But when they are compared with Istanbul (Suleimani Region), Safranbolu Bazaar Region-Karabük and Han's Region- Bursa, there isn't sufficient action considering cultural heritage and universal design. The evaluations done upon these criteria for each city are gathered from the UNESCO, EU, EU Access City Reward and ICOMOS related, city municipality web pages of the cities and related articles which are cited for each city in the article. In the table there are three main evaluations for the cities considering the criteria. "No" is used for a lack of information of the criteria or when it doesn't exist, while "insufficient" stands for the evaluations done about the insufficiency of the issue related with those criteria by the cited literature (articles, reports, or the municipality webpages etc.). None of the evaluation in Table 1. depends on personal observations.

Table 1. Evaluation of the Sustainable Universal Design Accessibility Criteria at Historical Urban Sites

UNIVERSAL DESIGN ACCESSIBILITY CRITERIA FOR A SUSTAINABLE CITY	UNESCO WORLD HERITAGE LIST- URBAN SITE & EU ACCESS CITY AWARD						TÜRKİYE UNESCO WORLD HERITAGE LIST -URBAN SITE		
	SALZBURG-AUSTRIA	LYON-FRANCE	AVILA-SPAIN	LUXEMBURG	KRAKOW-POLAND	WARSAW-POLAND	SAFRANBOLU BAZAAR REGION-KARABÜK	HAN'S REGION BURSA	SULEIMANI REGION-ISTANBUL HISTORICAL AREAS
AREA MANAGEMENT PLAN	YES	YES	YES	NO	NO	NO	NO	YES	YES
ACCESSIBLE TRIP ROUTE	YES	YES	YES	NO	YES	YES	NO	NO	NO
LOW PHYSICAL EFFORT (Horizontal and vertical circulation)	YES	YES	YES	YES	YES	YES	NO	INSUFFICIENT	INSUFFICIENT
ACCESIBLE TRANSPORTATION CONSIDERING VEHICLES AND PARKS	YES	YES	YES	YES	YES (ONLY PUBLIC ONES)	YES (ONLY PUBLIC ONES)	NO	NO	INSUFFICIENT
ACCESSIBILTY FOR DISABLED	YES	YES	YES	YES	YES	YES	NO	INSUFFICIENT	INSUFFICIENT
PERCEPTION (Visual, Tactile, Auditory)	YES	YES	YES	YES	YES	YES	NO	INSUFFICIENT	YES
SMART APPLICATIONS	YES (FOR VEHICLES)	YES	YES	YES	NO	YES	NO	INSUFFICIENT	NO

3.1. Salzburg

It is accepted in 1996 into UNESCO's World Heritage List and won the prize of EU Access City Awards in 2012. It is a Baroque style city located where German and Italian cultures meet. It is a city that has an area management plan and accessible trip routes. Disabled access is provided by pedestrian roads, urban furniture, tactile systems and guides special for sight disabled people by smart applications, free transportation and parking areas for disabled people that also ensures the low physical efforts and the security by tourism offices (URL-4; URL-8).

Fig. 3. Examples of Salzburg's streets (URL-11)

In Denmark auditory systems like audiobooks are accepted as important learning systems not only for people with visual difficulties and disabled people, but also accepted as an essential learning material (Marchetti & Valente, 2018).

3.2. Lyon

As a Roman, Medieval and Renaissance city, Lyon has been under UNESCO's World Heritage List since 1998 (URL-4). It has been rewarded at the Access City Awards in 2018 by providing a comfortable public transportation for disabled access, parking areas, mobile applications considering GIS, parks, and routes for trips in the city, facilitating the participation of disabled people to the cultural activities by visual and touch systems in the historical center of the city. It has an area management plan (URL-8; Yıldız, 2019).

3.3. Avila

Avila's historical city around the city walls has taken place in the list of UNESCO since 1985 (URL-4). It is a gothic city founded in 11th century, located in the center of Iberian Peninsula on a mountainous area with Romanesque cathedrals and medieval city walls (Popiel, 2014). The City Council of Avila mentions the cultural heritage and monuments of the historical areas and aims to design an accessible city under universal design principles for all by Accessible and Social Tourism initiative. It has won the first prize of the Access City in 2011 by developing job opportunities, facilitating the access to the public transportations and communication, rehabilitating the built environment, trip routes and guided tours for disabled people and visual- tactile brochures and applications. It has an area management plan.
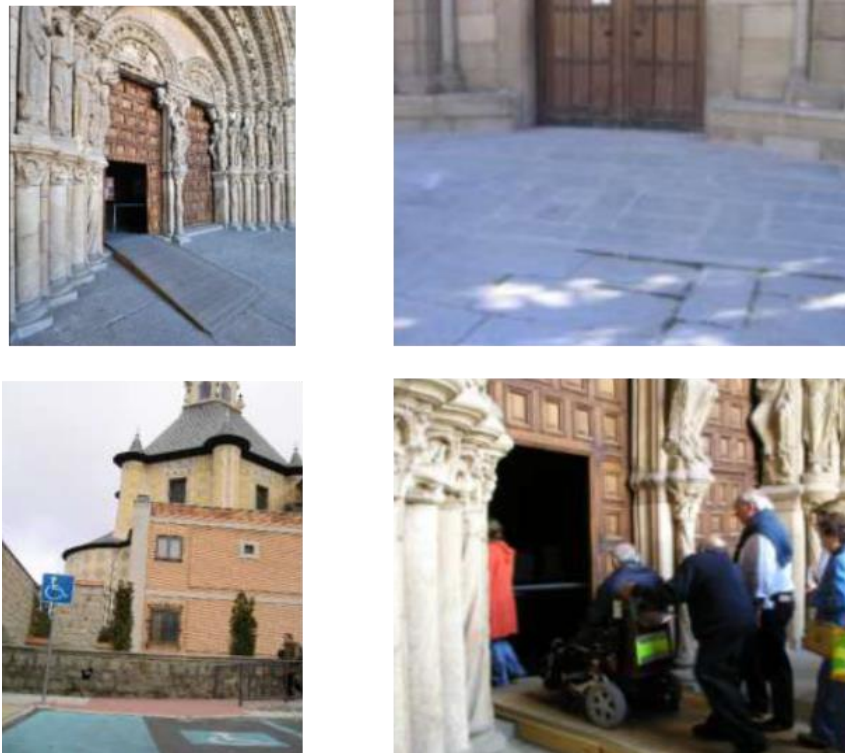
Fig. 4. Accessibility and Street Patterns Adapted for Disabled People in Avila (URL-12)

The tools used to achieve an accessible city in Avila, based on a participatory and cooperative approach considering the NGO's related with disabled people like voluntary organizations, groups, platforms and citizens, private sectors etc. Not only in designing the city but also institutionally the Municipality of Avila developed its capacity by new departments like city council for disabled people, the department of universal accessibility, the municipal accessibility office, accessible and social tourism department to facilitate the participation and accessibility not physically but also socially and institutionally for a sustainable city (UNWTO, 2015). In the city implementations, like accessibility in public areas, historical buildings, transportation services and parking areas facilitate the accessibility of all (Fig 4.). On the other hand, sign language services, audio guides, employment of disabled people, audible alert, geo-location information system-based applications which gives alternative places to visit to all, made Avila an attraction point for all (Popiel, 2014).

3.4. Luxembourg

The historical part of the city was built in the 10th century on a rocky location. Historical city and the castle have been accepted to be in the list of UNESCO after 1994 (URL-4). It has difficulty in accessibility because of the sloppy topography. But it was awarded with the prize of the access city awards because of the projects focused on the accessibility and design for everybody. The Luxembourg concept of strategies related to universal design have been focused on actions like rising awareness, technical counselling, information, technical counselling for a better accessibility including Internet accessibility (Ginnerup, 2009).

Fig. 5. Streets Designed under Universal Design Approach in Luxembourg (URL-13)

Signalization, sound systems, ramps, visual and sound announcements at the public transports, tourism offices services aim to create an accessible and secure city under universal design perspective despite its difficulties caused by the topography (Fig 5.) (URL-9). No data is found about the existence of an area management plan.

3.5. Krakow

It is a kind of unique historical urban areas founded in 7th century, reflects the periods from early Romanesque to modern times architectural movements. Krakow urban area is an attractive place not only for tourists but also for the residents of the region and neighborhoods by tourism, leisure, and cultural potentials (Kubal & Pawlusiński, 2014; Pawlowska, 2014). It has been under protection of UNESCO since 1978 and won the Access city Award in 2012.

Fig. 6. Streets of Krakow Adapted to Universal Design Principles (URL-14)

In accordance with the universal design approach, in the city, it has been tried to facilitate the access to public transportation by accessible low floor and vocal information, public buildings and streets for the disabled tourists and also special guides and routes for sight disabled people (Fig 6.) (Popiel, 2014; URL-4; URL-10). No data is found about the existence of an area management plan, and lack of information about cars and parking areas for disabled people.

3.6. Warsaw

These cities historical center that reflects the 13th to 20th centuries values have been restored and renovated after the World War II. Since then, it has been tried to be designed to protect the cultural heritage under universal design approaches. The city has won the prize of EU Access City Awards because of a great effort on adapting the historical city to the universal design principles. The main design strategies are based on facilitating the accessibility for everybody including disabled, elder people, children etc. Many existing infrastructures have been replaced by the new accessible ones. Redesigning, adapting the bike roads, pedestrian roads, public transportation have become the focus issues of the accessibility. Also, digital communication has become the important services especially for disabled people. (URL-4; URL-8). The main implementations done to adapt the city to universal design principles can be summarized as; low- floor bus and tram floors with ramps, vocal, tactile, and visual information systems in the transportation system and pedestrian access, redesigning the streets and pavements adequate to universal design standards (Zajac, 2016).

3.7. Safranbolu- Karabük

Safranbolu is an ancient Ottoman city in the Black Sea Region with narrow streets, small squares integrated with natural habitat and historical identity. The city is an attraction point for people and tourism regarding the presence of mixed-use functions together like traditional shops, traditional cafes, and squares beside urban functions like education, religion and administrative functions in proximity and makes the city available for pedestrians (Oktay, 2020). Safranbolu has been listed in the UNESCO's World Heritage List since 1994 with its historical heritage Kıranköy, Bağlar Region's traditional urban pattern and streets, mosques, and wooden houses. There isn't any observed or written information about adapting the city under universal design principles (Diken, 2022; Arslan, 2021). Although after 2000 the cities under UNESCO's World Heritage have been obligated to develop an area management plan, there isn't any area management plan (URL-4). None of the criteria are found meeting with the demands of universal design.

3.8. Han's Region- Bursa

In 2014, Bursa has been accepted to UNESCO's World Heritage List with Bursa: Rise of Ottoman Empire. There isn't sufficient effort on adapting the historical city under universal design principles. There are some signboards for guiding and also some visual and vocal digital information about the city. But there isn't enough accessibility for disabled people to urban facilities and green areas. There are only two tourism offices in Han's Region and Orhan Gazi Mausoleum. An area management plan has been developed for this city. It aims to increase the information signboards, connect the historical places under universal design principles, solve car parking problems and develop an urban design guide as a result of insufficiency (Bursa Büyükşehir Belediyesi, 2013).

3.9. Suleimani Region- Istanbul

Sultanahmet Archeology Park, Suleimani Mosque and protection area, Zeyrek Mosque and protection area, City Walls of Istanbul are registered in UNESCO's World Heritage List. There are some efforts on adapting the existing infrastructure to universal design, especially for orthopedic and sight disabled people. There are visual and vocal signboards, traffic lights and tourism information desks. There isn't enough car parking for disabled people and the accessibility from car parks to the historical places is very problematic. There are not any digital guides or smart information systems for the whole area. The Area Management Plan of this area aims to determining the thematic and alternative routes, websites and smart applications, information signboards, modelling the area and the monument for disabled people (URL-7).

4. Evaluation

The cities analyzed in this study under Sustainable Universal Design Accessibility Criteria at Historical Urban Sites, Salzburg, Lyon and Avila seem to meet all the criteria defined successfully. One of the most important criteria that made them successfully managed can be the existence of an area management plan that may be used as a guide for decisions taken on the physical implications considering both universal design and protecting cultural heritage regarding touristic activities. Luxembourg, Krakow, and Warsaw can be accepted as developing cities about meeting the demands of a historical city under Universal Design Accessibility Criteria. But none of these three cities has an area management plan, which is very important for being a guide for both protection of historical areas together with universal design standards. All the European cities give importance to disabled access by universal design adapted pedestrian roads, transportation, urban furniture, tactile systems and guides special for sight disabled people by smart applications, information offices, parking areas etc. for disabled people that also ensures the low physical efforts and the security. The comparison between the cities that are both under UNESCO's World Heritage List and EU Access City Awards with Turkish cities shows important deficiencies in adapting universal design principles, both in physically and institutionally. There are different universal design solutions for each city's historical character. All the cities, except Luxembourg and Turkish cities, have specific trip routes adapted to the accessibility of the disabled people by facilitating public transportation, and designing infrastructure with universal design principles. It is obvious that Luxembourg may have an accessible trip route in a close future as the city meets with all other demands of criteria explained in the study. All the cities, except Krakow, Safranbolu and Suleimani, have digital guides for disabled people which make them access to the historical, cultural places and daily activities. City of Avila mentions the importance of the participatory tools for a sustainable city integrated with universal design principles. Participative approaches as an important component of sustainable city planning, are not emphasized enough for the cities mentioned in this study at the literature reviews.

Turkish cities except Safranbolu have an area management plan but not defining the participatory tools for an accessible city. Also, these cities have lack of accessible routes and digital applications for disabled people. The adaptive design solutions like ramps, streets, car parks, lighting, urban furniture for disabled people are partially implemented in Bursa and Istanbul but insufficient as it is mentioned in the reports. There are visual and vocal traffic lights, signboards and tourism offices in Bursa and Istanbul, but not enough. There is a lack of participatory tools in designing the city under universal design principles collaborating with public, private sectors and citizens. In this study, Safranbolu as an important cultural heritage is found the weakest member of the selected cities in adapting their cultural heritage with universal design for a sustainable city. Safranbolu, Han's Region and Suleimani respectively need more attention for a universal design adapted city (Diken, 2022).

CONCLUSION

Cities from past to present represent the history with the cultural and historical heritage. Protecting this heritage and transferring it to the future generations can be realized by a holistic approach considering all parties of the city in equity. In this perspective, universal design principles adapted to historical city has a special mission for the protection of cultural heritage and the sustainability of the city. Being a sustainable city may be possible by physical, social, and economic balance between the components of the city. Nowadays, sustainability is generally discussed with the damages of natural environmental and impact of urbanization on natural areas. But history and cultural heritage are important for the identity and should be thought under sustainability. Universal design to increase the accessibility and restoration, rehabilitating the cultural heritage are only some parts of the solutions. The other part is developing holistic and participatory tools integrating all the parties of the city under

a collaborative perspective. The initiatives, charters, agreements that support the actions done in city scale may facilitate the funding problems. Also, collaboration between public and private sectors can be used for financial supports of these actions. Participative approaches and tools are important for the sustainability of the city when integrated with cultural heritage under universal design approach. Area management plan and urban design guides should be developed under universal design principles with participatory tools. It is found that there isn't enough information given about this issue integrated with universal design in city scale. Accessibility to the cultural heritage adapted to universal design, needs to be mentioned more to increase the awareness of the humanity and for sustainability. Further research is needed in city scale where meets with the demands of sustainability.

Compliance with Ethical Standard

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